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ABSTRACT

This study examines differences in the academic achievement of Puerto Ricans, Cubans, and Central/South Americans, and the relationship of those differences to the time spent on homework, educational-occupational aspirations, and background. The following parental factors are examined: (1) the press for English; (2) the press for independence; (3) the educational-occupational aspiration for their child; (4) the amount of time residing in the United States; and (5) the level of educational attainment. Information was gathered from the interview responses of a sample of 108 Hispanic American 10th-grade students and their parents. A model developed from the 1976 Marjoribanks Social-Environmental theory was tested using path analysis. The following findings are reported: (1) the proposed family environment model accounted for 56 percent of the variance in the students' reading achievement and 59 percent of the variance in the students' mathematics achievement; (2) paternal achievement processes played a larger role than maternal processes; (3) the students' educational-occupational aspirations were related to their achievement and to the amount of time they spent on their homework; (4) Cuban fathers displayed higher levels of press for English, press for independence, and educational-occupational aspirations than Central/South American fathers; and (5) Central/South American fathers displayed higher levels of all family processes than Puerto Rican fathers. Implications for remedial programs are discussed. Four tables of statistical data, four illustrations, and a list of nine references are appended. (FMW)

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Differences in Home Educational Processes and Academic Achievement Among Three Hispanic Groups in the U.S.

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Abstract

The purpose of this study was to examine 1) whether differences in academic achievement exist among students of three Hispanic groups in the United States, 2) whether such differences are related to student achievement processes, and 3) whether differences in student academic achievement and achievement processes are related to their parents' background characteristics.

Three Hispanic groups of students were studied: Puerto Rican, Cuban, and Central/South American. Two student achievement processes were examined: their time spent on homework and their educational-occupational aspirations. The three parental achievement processes investigated were their press for English, press for independence and educational-occupational aspirations for their child. Finally, two background characteristics of the parents were studied: their time residing in the United States and their level of academic attainment. The model that guided this investigation was developed from Marjoribanks' (1976) Social-Environmental theory and was tested using path analysis procedures.

It was found that the proposed family environmental model could explain 56 percent of the variance in the students' Reading achievement and 59 percent of the variance in their Mathematics achievement. The results showed that

paternal achievement processes played a larger role than maternal processes in the academic achievement of these Hispanic students. In addition, it was found that these students' educational-occupational aspirations were related to their academic achievement, and that their homework time was affected by their educational and occupational aspirations. In comparisons among the three Hispanic groups, Cuban fathers displayed significantly higher levels of press for English, press for independence and educational-occupational aspirations than Central/South American fathers. The latter fathers in turn showed higher levels of each of these three family processes than Puerto Rican fathers.

The results are interpreted as supportive of the Social- Environmental view of academic achievement and as indicative of important differences in family achievement processes among the three Hispanic groups that were studied. Educational implications for remediation programs are discussed.

A matter of increasing concern to educators is a pattern of lowered levels of academic performance among many Hispanic students (Weinberg, 1977). In tests of reading, mathematics and general achievement, Mexican-American and Puerto Rican pupils score as much as one standard deviation below Anglo-Saxon students by the end of the 1st grade, and this gap has widened further by the 12th grade (Coleman, Hobson, McPartland, Mood, Weifeld & York, 1966, p. 21).

This developmental disparity is of concern to educators for two major reasons: a) the cost of remedial education in the U.S. is high. In 1981 alone, the money spent on programs for the educationally disadvantaged exceeded five billion dollars (U.S. Department of Education, 1982). A large portion of this money is increasingly being allocated to a growing U.S. Hispanic population, a population that now exceeds 15 million and is projected to reach 40 million within two decades (Jaffe, Cullen & Thomas, 1980). And b), evidence exists that past efforts at remediation have been largely unsuccessful in alleviating the problem. After several decades of remedial education, only about ten percent of the variance in test scores can be associated with differences between schools. The major portion of the variance in achievement continues to be associated with individual differences among students

(Carver, 1975). Thus, if the general success rate of efforts at remediation continues unchanged, academic underachievement among Hispanic pupils will continue to pose a drain on national resources, with little prospect for improvement.

Two related reasons have been suggested for the low success rate of past efforts to remediate academic underachievement among minority groups in general and Hispanic groups in particular: a) The manner in which the causes of underachievement have been defined and studied; and b) a tendency to view the various Hispanic groups in the U.S. as a single, undifferentiated set.

The manner in which the relationship between key environmental variables and scholastic achievement has been examined "cannot be expected to throw much light on the processes that may be involved in the interactions" (Kellaghan, 1977, p. 754). Typically, such crude home environment variables as parental socioeconomic status have been used. However, Bloom (1964) and Fraser (1959) argued that the use of more refined measures dealing with culture and parent-child interactions could provide a better insight into the problem. Information gleaned from the Coleman Report supports the notion that school achievement patterns are influenced by interplays between subcultural variables--

and that, in many cases, these conditions negatively affect Hispanic student performance. Such interplays can be seen in the case of home language usage: According to Coleman et al. (1966), children from Hispanic homes in which a language other than English is spoken perform lower than children from English-speaking homes when they enter first grade (p. 24). However, it is also clear that other subcultural factors contribute to this problem. In grade one, on the General Information Tests (Coleman et al., 1966, p. 576) the average verbal score of Puerto Rican students in whose homes no English is spoken is 34, while for those in whose homes English is spoken it is 40. On the other hand, for Oriental-American students in whose homes no English is spoken the average score is 45, while for those in whose homes English is spoken it is 52. The same differences are found between Mexican-American students and Oriental-American pupils. Since, after language usage in the home has been accounted-for, different levels of achievement remain for Oriental-Americans than for the two Hispanic groups examined, it is apparent that other factors operate in addition to home language usage to affect school achievement.

Thus, unique familial and other types of social factors clearly affect levels of scholastic achievement among

Hispanic groups. But past failures to take such factors into account have undoubtedly minimized the effectiveness of remediation efforts.

The second reason mentioned for the low success rate of past efforts at remediation involves a tendency for scientists and federal officials to classify Hispanic students into a single group, with little attempt to recognize those unique subgroup factors that may interfere with academic development. According to Jaffe, Cullen & Thomas (1980), legislation in the area of remedial education passed during the 60's, "...and the resulting judicial administration give the appearance that the Spanish-Americans are one group... with little or no differentiation" (p. 24). There is evidence in support of these notions. In an analysis of 1970 Census data, Jaffe et al. (1980) uncovered distinct and consistent differences in occupational level, family income and children's school status among the five major Hispanic groups in the U.S.: Mexican-Americans, Puerto Ricans, "Hispanos" (i. e., direct descendants of 15th century Spanish settlers in the southwest), Cubans and Central-and-South Americans.

The above observations have important implications for prevention and remediation of academic deficits among Hispanic students. First, if only certain subsets of the

U.S. Hispanic population are found to be academically deficient, then economy of effort requires that only those groups be targeted for remediation. And second, an optimal effort requires that the specific set of conditions attending each subgroup afflicted be addressed.

Since this approach is based on the assumption that differing sub-group conditions within the Hispanic community are related to students' academic achievement, as a start, two specific questions must be addressed: First, Do different Hispanic groups in the U.S. display different levels of academic achievement? Second, Are there differences among U.S. Hispanic groups in home processes related to school achievement?

Purpose

The purpose of this study was to examine 1) whether differences in academic achievement exist among students of three Hispanic groups in the United States, 2) whether such differences are related to student achievement processes, and 3) whether differences in both student academic achievement and achievement processes are related to their parents' background characteristics.

Theoretical Underpinnings

The model that guided this investigation was developed from Marjoribanks' (1976) Social-Environmental theory, which makes possible the examination of complex variable configurations. Marjoribanks (1979) suggested that in accounting for academic performance among minority students, social class as well as ethnicity must be taken into account. The complex family dynamics that determine academic achievement may vary across and within ethnic groups according to the family's social status. Thus, ascertaining the ethnicity, social class and family dynamics characteristic of specific groups should be the first step toward gaining an understanding of the conditions underlying academic deficit-- and in efforts at remediation of academic underachievement. Based on empirical findings, Marjoribanks identified the following components of the family environment having high concurrent validity with school performance:

1. Family press for English-- i. e., the use of English in the home and parental reading habits. In relation to this component, Walberg & Marjoribanks (1973) found high canonical loadings on the same variate for press for English and number and verbal abilities (.56, .92 and .90, respectively).

2. Press for independence-- i. e., encouragement of

self-reliance and autonomy in a decision-making situation. In relation to this component, Walberg & Marjoribanks (1973) found high canonical loadings on the same variate for press for independence and verbal and number abilities (.55, .92 and .90, respectively).

3. Educational-occupational aspirations-- i. e., how much education and what types of occupation parents want their children to achieve. In relation to this component, Marjoribanks (1976) found a high correlation between parents' educational-occupational expectations and verbal achievement ($\underline{r}$ = .64, $\underline{p}$ < .01); and between parents' educational and occupational expectations and math achievement ($\underline{r}$ = .67, $\underline{p}$ < .01). These three factors-- family press for English, press for independence and educational-occupational aspirations-- describe the family learning environment. The Typology of Family Environments (TFE), developed by Marjoribanks around these three factors, classifies families in terms of interactions between levels of family orientations and levels of family aspirations. It may be represented as in Table 1, which is a tabulation by the present authors based on Marjoribanks' formulation. As evidenced in Table 1, these interactions produce eight cells, each characterized by a unique quality of family environment for academic achievement. The cells ranging

between 1 and 8 represent varying degrees of favorableness for success. The categories comprising these cells were labeled by Marjoribanks according to the quality of the home environment they represent. Thus, Cell 8 (Committed Environment) represents the ideal family type, which has the highest potential for preparing the child for academic success. At the other extreme, Cell 1 (Detached Environment) represents the lowest potential for preparing the child for academic success.

Using the typology as a central concept, Marjoribanks formulated a social-environmental model depicting the relationship between the family's socio-economic status and typological characteristics, the child's school-related behavior, and his/her academic achievement. This model, depicted in Figure 1, was used as basis for the present study.

In the present investigation, two student achievement processes were examined: their time spent on homework and their educational-occupational aspirations. The three parental achievement processes contained in Marjoribanks' typology of family environments was also included in this model. In addition, two background characteristics of the parents were studied: their time residing in the United States and their level of academic attainment. Finally, the

child's achievement levels in Reading and Mathematics were assessed. The model for investigation, examined through path analysis procedures for each group examined, appears in Figure 2.

Methods and Procedure

Sample

The sample for investigation consisted of 180 10th-grade students and their parents, representing the following ethnic groups: Puerto Rican, Cuban and Central/South American. These three groups were selected because they represent the broadest range in socio-economic status of the Hispanic groups in the U. S.: Puerto Rican, at the lower end, Central/South American at the mid-point, and Cuban, at the upper end. For the Central/South American subsample, families from Panama, Colombia and Equador were represented. The gender breakdown for the three groups appears in Table 10. The students in the sample were selected from the New York City boroughs of the Bronx and Queens. College students in education courses, members of each of three study groups, were recruited as linkages with the parents. Because their backgrounds were similar to those of the groups under study, it was deemed that they would be able to ore readily obtain the cooperation of the parents and students.

Measures and Instrumentation

Family Variables: Family Interview Schedule (FIS). The FIS was adopted for the present study from Marjoribanks' (1977) Family Environment Schedule, and was designed for assessing the following dimensions of the family environment: Instrumental Orientations, Expressive Orientations and Educational-Occupational Aspirations. The FIS was designed to obtain, in addition, information regarding the time the family (or direct ancestors) first arrived in the U.S.; and how many hours per week the child spends on homework. A Spanish language version of the FIS was used for parents who do not speak or understand English. English and Spanish versions of the schedule appear in the Appendix.

The final measure was years of school completed by the parents (Blau & Duncan, 1967).

Student Achievement Measures. Scores on standardized school achievement tests in Mathematics and Reading comprehension, obtained from school records, were used as the achievement measures. The California Achievement Tests (CTB/McGraw-Hill, 1967) were used, and grade equivalence scores on the Reading comprehension and Mathematics components of this instrument were employed. The score used indicated how much above or below the expected grade level the student scored on these tests.

Procedure

After receiving two hours of training in conducting the interview, the interviewers contacted the parents directly. Prior to the interviewer's visit, the parents were asked to obtain the Reading and Math achievement scores in grade equivalence form from their child's school records. The interview was carried out in the student's home, with each parent separately and with the child apart from the parents. Each interview lasted an average of 15 minutes.

Method of Data Analysis

To test the adequacy of the present theoretical model for accounting for academic achievement in the population under study the three Hispanic subgroups were combined and two path analyses were performed. The Math and Reading components of the CAT were each used as the lowest-order variables in different analyses.

Figure 2 depicts the path model used for the analyses. In Figure 2, independent variables said to determine school achievement indirectly (i. e., Variables A, B and C) are directly linked to academic performance (single-lined arrows), as well as through mediation of variables stipulated in the hypotheses (double-lined arrows). The purpose of these additional, direct connections was to assess the extent to which the hypotheses of indirect causality were

supported, and the extent to which they may have to be modified, given effects not postulated in terms of the indirect paths.

To assess group differences in academic achievement, a one-way ANOVA and Newman-Keuls post hoc comparisons was calculated for each of the academic achievement measures.

To assess group differences in parent achievement processes, the following analyses were performed separately for the father and mother on each of the parent achievement processes (Press for English, Press for Independence and Educational-Occupational Aspirations for the child): A two-way ANOVA and Newman-Keuls post hoc comparisons were performed. The background variables in these analyses were ethnicity, educational level and time in the U.S. of each parent. For the purpose of the analysis, the educational level was divided into three categories: 1) up to 8 years of school completed, 2) up to 12 years of school completed and 3) over 12 years of school completed. For time in the U. S., the three categories were 1) up to 10 years, 2) 11 through 20 years and 3) longer than 21 years. The purpose of this analysis was to ascertain the extent to which parents in the the Hispanic groups differed in the three achievement processes based on their level of education and time in the U.S.

Results

Student Achievement Processes and Academic Achievement

The path analysis outcomes for Reading achieveent appear in Figure 3. An examination of this figure reveals that both student educational aspirations and time spent on homework were significantly correlated with achievement in Reading (r=.50, p < .05 and r=.37, p < .05, respectively). After the effects of other variables in the model were statistically controlled, student aspirations did not contribute to the variability in achievement, but time spent on homework did (P = .11, NS and P=.27, p < .05, respectively)*. An unexpected indirect effect of aspirations on achievement, through mediation of time spent on homework, emerged from the analysis (P= .12).

Figure 4 displays the path analysis outcomes for Mathematics achievement. An examination of Figure 4 shows that relative to Mathematics achievement, while student time spent on homework and educational aspirations were significantly correlated with performance (r= .55, p < .01 and r= .29, p < .05, respectively), this correlation remained high for aspirations but dropped to zero for time spent on homework once the effects of other variables in the model

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* P = Path coefficient

were statistically controlled (P= .25, p < .05 and P= .03, NS, respectively).

Relationship Between Parental Achievement Processes and Student Academic Processes

An examination of Figure 3 reveals that, although both the father's and mother's achievement processes were correlated with their child's educational-occupational aspirations, only the father's measures were predictors of student aspirations when other variables in the model were statistically controlled. Specifically, father's educational-occupational aspirations for the child predicted the child's aspirations (P= .26, p < .05); the father's press for English predicted the child's homework (P= -.33, p < .05). Although the father's press for independence did not affect either of his child's academic processes, it did predict his child's reading achievement outcomes (P= -.33, p < .05); it did not predict the child's Mathematics performance.

Relationship Between Parents' Educational Level, Time in the U. S. and Academic Achievement Processes

An examination of Figures 3 and 4 reveals a significant relationship between the educational level of fathers and their press for English (P= .27, p < .05), educational aspirations for the child (P= .37, p < .05), and press for

independence (P= -.37, p < .05). In addition, there was a direct effect of the father's education level on the child's Reading achievement (P= .32, p < .05) and Mathematics achievement (P= .17, p < .05). There was no effect of fathers' time in the U. S. on their achievement processes for their child. There was no direct effect for any of these variables on Mathematics performance.

For the mothers, their educational level influenced their press for English in the home (P= .26, p < .05), and their educational-occupational aspirations for their child (P= -.16, p < .05). However, the time in the U. S. by the mother was significantly related to all their achievement processes-- specifically press for English (P= .34, p < .05) child aspirations (P= -.34, p < .05) and press for independence (P= -.34, p < .05). There was no direct effect for any of these variables on either Reading or Mathematics achievement.

Group Differences in Academic Achievement

The means and standard deviations of student variables for the three Hispanic groups appear in Table 2.

The three Hispanic groups differed significantly in Reading comprehension: F(2,130)= 70.55, p < .01. Subsequent post hoc comparisons revealed that Cuban and Central/South American students scored significantly higher on the Reading

comprehension score than did Puerto Rican students. No significant difference was obtained between Cuban and Central/South American students.

The three Hispanic groups differed significantly in mathematics achievement as well: $F(2, 130) = 31.42$, $p < .01$). Subsequent post hoc comparisons revealed that Cuban and Central/South American students scored significantly higher on Mathematics achievement scores than did Puerto Rican students. No significant difference was obtained between Cuban and Central/South American students.

In the light of these findings, it was concluded that for selected Hispanic students in the U.S., differences do exist in the levels of academic achievement in Reading and Mathematics performance. More specifically, Cuban and Central/South American students tend to score significantly higher than do Puerto Rican students in the achievement and student/familial measures.

Group Differences in Parent Achievement Processes

Tables 3 and 4 display the means and standard deviations of parent achievement processes for the three Hispanic groups. With regard to press for English, there was a main effect for the father's ethnicity, $F(2, 132) = 18.12$, $p < .01$. The Cuban fathers had significantly higher press for English in their homes than the Puerto Rican or Central/South

American fathers. This finding was not qualified by the educational level of the fathers or their time in the U. S. The mothers for the three Hispanic groups also differed in their press for English, $F=(2, 132)= 34.37$, $p < .01$. The Cuban mothers placed more stress on the use of English in the home than the Puerto Rican or Central/South American mothers. In addition, there was a main effect for mothers' educational level ($F(2, 122)= 4.84$, $p < .01$) and an interaction between ethnicity and level of education.

With regard to press for independence, the fathers differed based on their Hispanic group, $F(2, 132)= 47.56$, $p < .01$, and time in the U. S., $F(2, 122)= 5.31$, $p < .01$. In addition, there was an interaction between ethnicity and time in the U. S. ($F(2, 132)= 2.68$, $p < .05$). The Cuban fathers showed greater press for independence than either the Puerto Rican or Central/South American fathers they lived in the U. S. 10 years or less, 15 years or less or 20 years or more. However, the Central/South American fathers allowed significantly more independence for the child than the Puerto Rican group when living in the U. S. less than 15 years. Puerto Rican and Central/South American fathers who lived in the U. S. 20 or more years were equal in their press for independence in their children.

The mothers' press for independence differed only on

the basis of ethnicity, $F(2, 132) = 6.136$, $p < .05$. The Cuban mothers fostered more independence in their children than the Puerto Rican or Central/South American mothers. The Central/South American mothers were intermediate.

With regard to the parents' educational-occupational aspirations for their children, the fathers differed on the basis of their ethnicity, $F(2, 122) = 14.20$, $p < .01$; their educational level, $F(2, 122) = 6.82$, $p < .05$. Post hoc tests revealed that the Cuban fathers had higher aspirations than the Central/South American fathers, who in turn had higher aspirations than the Puerto Rican fathers. Furthermore, fathers who had a college education had significantly higher aspirations than for their children than fathers with a high school education. These high school educated fathers in turn surpassed those without high school education in their educational-occupational aspirations for their child.

In terms of the aspirations of the mothers for their children, there were no main effects for ethnicity, educational level or time in the U. S. There was, however, an interaction between ethnicity and time in the U. S. for the mothers, $F(2, 112) = 3.27$, $p < .05$. For mothers who had lived in the U. S. for 10 years or less, the aspirations of Cuban and Central/South American mothers were higher than the Puerto Rican mothers'. Among parents in the U. S. 20 years

or less, the Cuban mothers' educational-occupational aspirations for their children surpassed both the Central/South American and the Puerto Rican mothers. There were no differences in the aspiration levels of mothers who lived in the U. S. longer than 21 years.

Post hoc tests disclosed that the Cuban mothers displayed a high level of press for English for their children regardless of their own educational level. The Central/South American mothers showed a low level of press for English for their children regardless of their educational level. Puerto Rican mothers who had an elementary or high school education showed a significantly lower level of press for English for their children than did mothers who attended college.

The results are interpreted as supportive of the Social-Environmental view of academic achievement and as indicative of important differences in family achievement processes among the three Hispanic groups that were studied.

Discussion and Recommendations

In summary, it was found that the proposed family environmental model could explain 56 percent of the variance in the students' Reading achievement and 59 percent of the variance in their Mathematics achievement. The results

showed that paternal achievement processes played a larger role than maternal processes in the academic achievement of these Hispanic students. In addition, it was found that these students' educational-occupational aspirations were related to their academic achievement, and that their homework time was affected by their educational and occupational aspirations.

In comparisons among the three Hispanic groups, it was concluded that for selected Hispanic students in the U.S., differences do exist in the levels of academic achievement in Reading and Mathematics performance. More specifically, Cuban and Central/South American students tend to score significantly higher than do Puerto Rican students in the achievement and student/familial measures. Moreover, Cuban fathers displayed significantly higher levels of press for English, press for independence and educational-occupational aspirations than Central/South American fathers. The latter fathers in turn showed higher levels of each of these three family processes than Puerto Rican fathers.

Implications for Program Development

Two reasons were suggested for the failure of past attempts to remediate low academic performance among Hispanic students in the U. S.: a) The manner in which causes of underachievement have been studied (typically involving crude

SES variables); and b) a tendency on the part of policy makers to view Hispanic groups in the U. S. as one single, undifferentiated group. The findings of the present study showed the value of using more refined measures of culture and parent-child processes underlying academic achievement (Bloom, 1964; Fraser , 1959). Moreover, the study's findings disclosed that the familial processes underlying the problem of children's achievement in school do differ among the Hispanic groups studied. The implications for program development are clear: Academic remediation programs addressed to the U. S. Hispanic population must consider include a) the different degrees of underachievement among the Hispanic subgroups affected; and b) the unique set of familial and cultural interactions underlying the problem for each subgroup.

Finally, the data indicates that changes in family achievement processes depend on educational level of the parents, particularly the father. For this reason, the parent data clearly argue against Hispanic student educational programs that do not involve the parents to a substantial degree. In this respect, large-scale parental involvement community programs such as that used successfully by Smith (1965), in which working and non-working parents were trained to become more involved in the educational

activities of their children, should become part of any such educational efforts.

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Table 1

Typology of Family Environments

Press for English	Press for Independence	Educational-Occupational Aspirations: Low to Medium	Educational-Occupational Aspirations: Medium to High
Weak	Weak	1. Detached Environment	2. Chimerical Environment
	Strong	3. Detached-Independent Environment	4. Conflict Environment
Strong	Weak	5. Protective Environment	6. Ambivalent Environment
	Strong	7. Ritualistic Environment	8. Committed Environment

TABLE 2

Means and Standard Deviations of Student Variables for the Hispanic Groups Separately and Combined

	Puerto Rican		Cuban		Central/ South American		All Hispanic Groups Combined	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Reading	-2.58	1.42	-.23	.98	-.57	1.08	-1.5	1.56
Mathematics	-2.60	1.98	-.15	1.06	-.67	1.31	-1.17	1.83
Time Spent on Homework	2.91	1.45	3.23	1.16	3.53	1.08	3.23	1.15
Educational-Occupational Aspirations	13.96	3.62	16.74	3.32	15.14	2.38	15.21	3.29

Note: Reading and Mathematics scores are in the form of grade level deviation scores

TABLE 3

Means and Standard Deviations of Father Variables for the Hispanic Groups Separately and Combined

	Puerto Rican		Cuban		Central/ South American		All Hispanic Groups Combined	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Press for English	8.91	2.43	11.76	2.24	8.46	2.71	9.58	2.84
Aspirations for the Child	20.09	7.59	24.5	2.74	22.65	3.64	22.32	5.41
Press for Independence	153.09	14.79	127.07	10.07	141.85	12.87	141.33	16.42
Education	9.25	20.89	11.74	1.56	9.35	2.88	9.23	2.48
Time in the U.S.	20.89	8.54	20.74	10.67	16.56	8.79	19.21	9.46

TABLE 4

Means and Standard Deviations of Mother Variables for the Hispanic Groups Separately and Combined

	Puerto Rican		Cuban		Central/ South American		All Hispanic Groups Combined	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Press for English	9.27	2.76	11.42	1.88	7.54	1.94	9.26	2.72
Aspirations for the Child	23.18	3.95	24.16	3.00	23.27	3.39	23.50	3.49
Press for Independence	155.50	13.52	127.24	8.96	143.92	13.89	142.96	16.76
Education	10.68	1.88	11.24	1.88	8.85	2.36	10.16	2.30
Time in the U.S.	19.30	7.50	20.55	10.83	16.14	7.9	18.61	8.75

Figure 1

Marjoribanks' Model

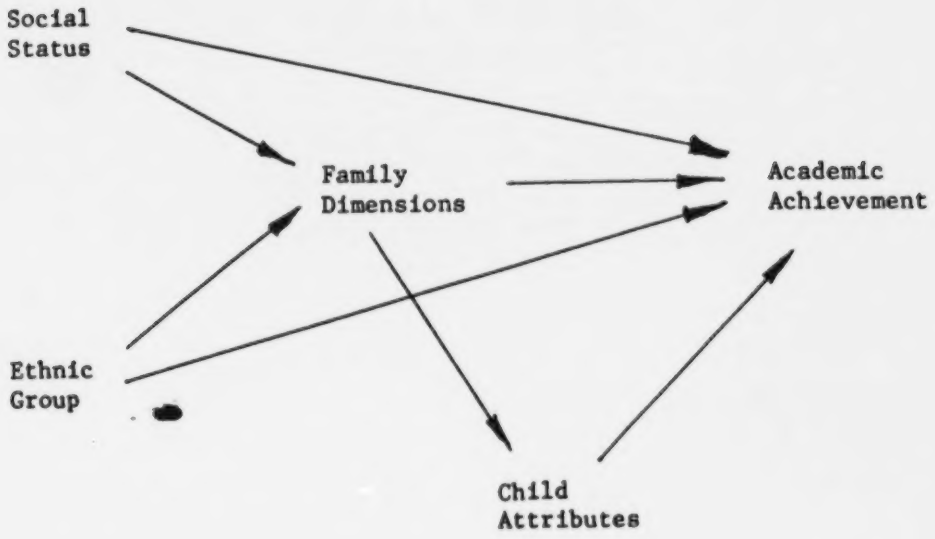
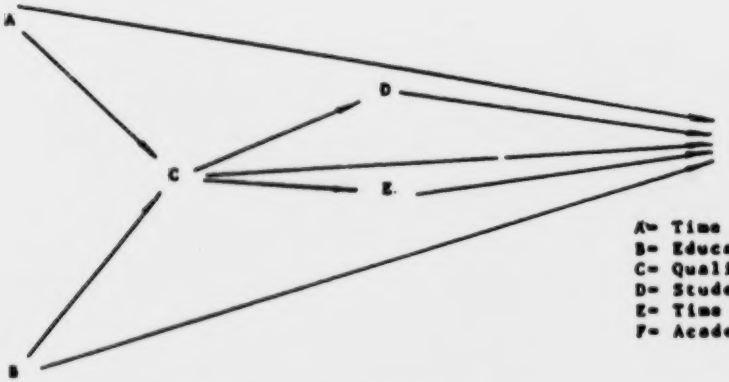


Figure 2

Path Model for the Study



A= Time in the U.S.
B= Education level
C= Quality of family environment
D= Student's aspirations
E= Time spent on homework
F= Academic achievement

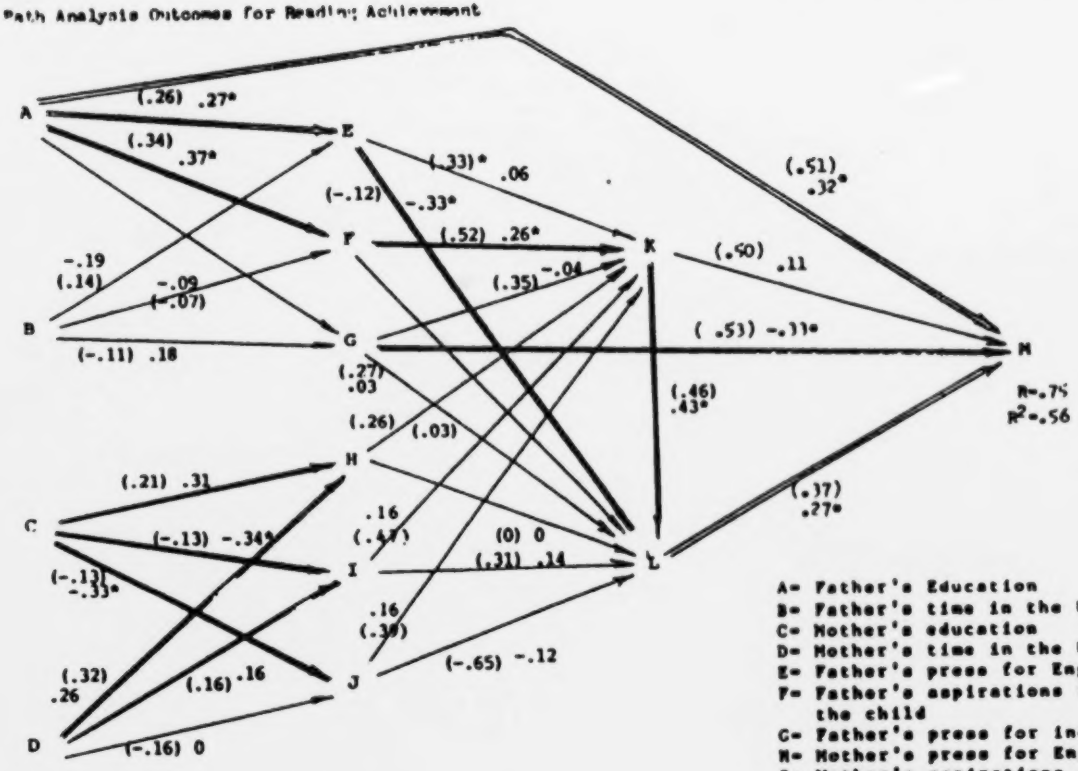
Note: (1) A, B and C are measured for the mother and the father separately

(2) C is broken down into three components: Press for English, Press for Independence and Educational-Occupational Aspirations for the Child

(3) F consists of Mathematics achievement and Reading Achievement

Figure 3

Path Analysis Outcomes for Reading Achievement

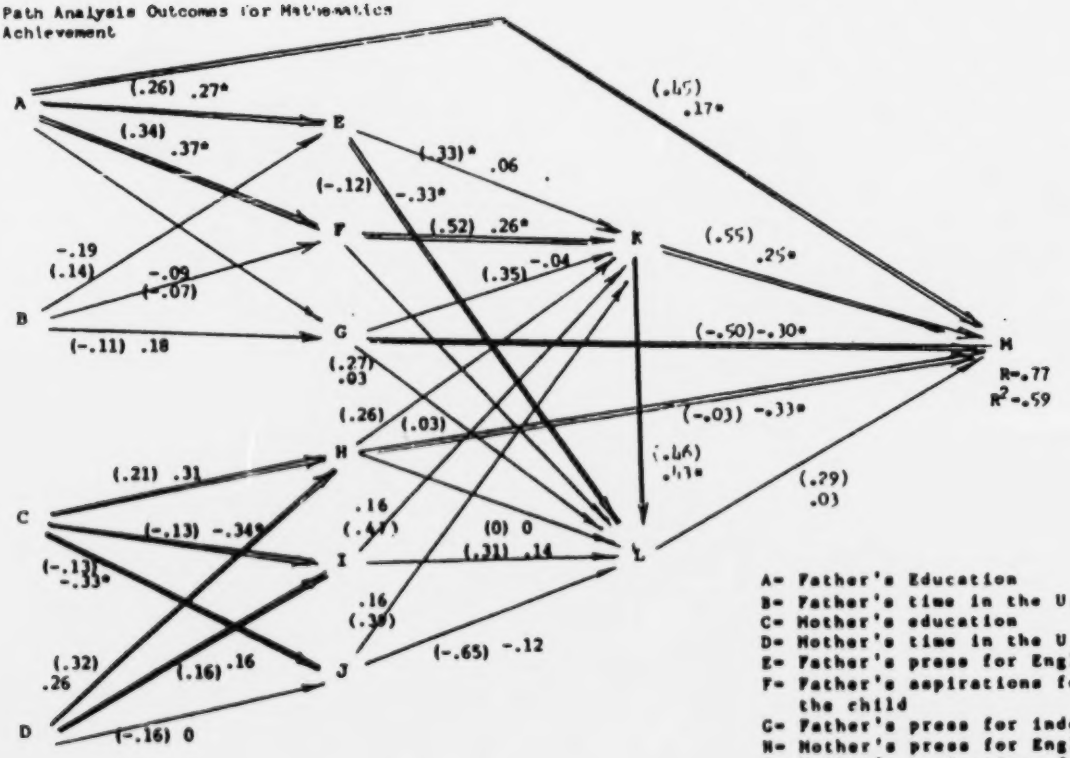


*p < .05

A= Father's Education
B= Father's time in the U.S.
C= Mother's education
D= Mother's time in the U.S.
E= Father's press for English
F= Father's aspirations for the child
G= Father's press for independence
H= Mother's press for English
I= Mother's aspirations for the child
J= Mother's press for independence
K= Child's aspirations
L= Time the child spends on hmwk
M= Academic Achievement

Figure 4

Path Analysis Outcomes for Mathematics Achievement



*p < .05

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